

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Patent Application of

KETTUNEN et al

Reissue of Patent No.: 5,779,856

Granted: July 14, 1998

For: COOKING CELLULOSE MATERIAL USING HIGH  
ALKALI CONCENTRATIONS AND/OR HIGH PH  
NEAR THE END OF THE COOK



Atty. Ref.: 10-1304

#10/1304-01

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

**SUPPLEMENTAL REISSUE DECLARATION**

The undersigned, **Auvo K. KETTUNEN**, hereby declares and states that:

1. I am the sole inventor of the subject matter disclosed and claimed in U.S. Patent No. 5,799,856 ("the '856 patent") and its above-identified reissue application, and am the same person who submitted the "Reissue Declaration of Auvo K. Kettunen" dated March 10, 2000 (executed by me on March 20, 2000), the entire content of which is expressly incorporated hereinto by reference.

2. My residence and post office and citizenship are stated below next to my signature.

3. I believe that I am the original, first, and sole inventor of the subject matter of the invention as described and claimed in U.S. Patent 5,799,856 (hereinafter "the '856 patent") which issued on July 14, 1998, and am one of the co-inventors of U.S. Patent 5,635,026 (hereinafter "the '026 patent") which issued on June 3, 1997, the '856 patent being a true continuation-in-part of the '026 patent.

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4. I have reviewed and understand the contents of the above identified reissue application including the original claims 1 through 21 as well as claims 22 through 46 added in this reissue application, and claim 22 which is proposed to be amended therein. I acknowledge my duty to disclose information of which I am aware to the examination of the reissue application in accordance with 37 CFR §1.56.

5. I believe that the '856 patent is wholly or partly inoperative or invalid by reason errors in claiming less than I had a right to claim in the '856 patent. More specifically, errors arose in the '856 patent that render it wholly or partly inoperative or invalid in claiming less than I had a right to claim arose by the failure to claim the following subject matter corresponding to new claims 47-53 presented by amendment in the subject reissue application: ✓

47. (New) A method for producing pulp, comprising the steps of:

providing a fiber material, a transport liquid and an impregnation zone;

providing a digester to facilitate a cooking reaction, the digester having at least one screen girdle section disposed therein, the digester having a first cooking zone and a second cooking zone;

providing a total amount of cooking liquor required for the cooking reaction;

transporting the fiber material and the transport fluid to the impregnation zone;

heating and impregnating the fiber material disposed in the impregnation zone;

transferring the heated and impregnated fiber material from the impregnation zone to the first cooking zone;

supplying a first portion of the total amount of the cooking liquor to the impregnation zone and the first cooking zone;

obtaining a first effective alkali concentration in the first cooking zone;

passing the fiber material and the cooking liquor through the first cooking zone; and

supplying a second portion of the total amount of the cooking liquor to the second cooking zone to obtain a second effective alkali concentration in the second cooking zone, the second alkali concentration being between about 15 grams/liter and about 60 grams/liter greater than the first effective alkali concentration.

48. (New) The method according to claim 47 wherein the method is a continuous process.

49. The method according to claim 47 wherein the method further comprises the steps of withdrawing a spent liquor from the screen girdle section and transferring the spent liquor to the impregnation zone.

50. (New) The method according to claim 47 wherein the second alkali concentration is between about 20 grams/liter and about 50 grams/liter greater than the first effective alkali concentration.

51. (New) The method according to claim 47 wherein the second alkali concentration is between about 30 grams/liter

and about 40 grams/liter greater than the first effective alkali concentration.

52. (New) The method according to claim 47 wherein the first temperature is between about 150° C. and about 160° C.

53. (New) The method according to claim 47 wherein the second temperature is between about 140° C. and about 150° C.

6. At least one difference between the subject matter claimed in the '856 patent is that claim 1 thereof recites the following:

1. A method of producing chemical cellulose pulp from comminuted cellulose fibrous material using a continuous digester having an inlet, comprising the steps of:
  - (a) continuously feeding comminuted cellulose fibrous material in a liquid slurry to the inlet to the continuous digester; and
  - (b) cooking the material in the digester for more than thirty minutes at a temperature between about 140°C – 190°C, before the cook is terminated; andwherein step (b) is practiced so that during at least the last minute before the cook is terminated the effective alkali concentration, expressed as NaOH or equivalent, in the digester is between 20 – 50 g/l.,

whereas proposed new claim 47 added via amendment in the subject reissue application recites the following:

47. (New) A method for producing pulp, comprising the steps of:

providing a fiber material, a transport liquid and an impregnation zone;

providing a digester to facilitate a cooking reaction, the digester having at least one screen girdle section disposed therein, the digester having a first cooking zone and a second cooking zone;

providing a total amount of cooking liquor required for the cooking reaction;

transporting the fiber material and the transport fluid to the impregnation zone;

heating and impregnating the fiber material disposed in the impregnation zone;

transferring the heated and impregnated fiber material from the impregnation zone to the first cooking zone;

supplying a first portion of the total amount of the cooking liquor to the impregnation zone and the first cooking zone;

obtaining a first effective alkali concentration in the first cooking zone;

passing the fiber material and the cooking liquor through the first cooking zone; and

supplying a second portion of the total amount of the cooking liquor to the second cooking zone to obtain a second effective alkali concentration in the second cooking zone, the second alkali concentration being between about 15 grams/liter and about 60

grams/liter greater than the first effective alkali concentration.

7. That the errors noted above which are sought to be corrected by this reissue application up to the time of filing the original "Reissue Declaration of Auvo K. Kettunen" dated March 10, 2000 (executed by me on March 20, 2000), through and including the filing of the present Supplemental Reissue Declaration, arose without any deceptive intention on the part of the applicant.

8. At the time that the application for the '856 patent was originally filed, while I appreciated the scope of the claims being presented therein, I did not appreciate that claims having the same scope as in a subsequently issued patent could be obtained. In particular I refer to U.S. Patent 5,885,414 (the '414 patent) based on an application filed in the United States on August 18, 1997 and issued on March 23, 1999. After I received a copy of the '414 patent, likely in April of 1999, counsel for my employer evaluated the file history of the '414 patent including the citation of a publication that I co-authored in the application. After further study I have now come to the conclusion that many of the claims of the '414 patent are supported by the disclosure in my '856 patent, including that part of the disclosure of my '856 patent which is in common with the '026 patent, and both the '856 and '026 patents have filing dates earlier than the '414 patent.

9. Therefore, in this reissue application I have copied the substance of claims 1-3, 5-6 and 13-14 which appear as claims 47-53, respectively, submitted by amendment herein. The only differences between the claims 47-53 submitted by amendment and claims 1-3, 5-6 and 13-14 which issued in the '414 patent are that: (i) the second alkali concentration is recited in the '414 patent claim 1 as being between about 8 grams/liter and about 120 grams/liter, whereas it is recited in new claim 47 in the subject reissue application as being between about 15 grams/liter and about 60 grams/liter; (ii) the temperature range of claim 13 in the '414 patent is recited as being

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between about 150<sup>0</sup>C to about 170<sup>0</sup>C, whereas it is recited in new claim 52 in the subject reissue application as being between about 150<sup>0</sup>C to about 160<sup>0</sup>C, and (iii) ) the temperature range of claim 14 in the '414 patent is recited as being between about 130<sup>0</sup>C to about 150<sup>0</sup>C, whereas it is recited in new claim 53 in the subject reissue application as being between about 140<sup>0</sup>C to about 150<sup>0</sup>C.

10. Shortly after being convinced that many of the claims of the '414 patent are fully supported by both the '856 and '026 patents, I instructed that the present reissue application be filed and I attempted to proceed promptly thereafter.

11. In addition to the art of record in the '856 case, I hereby bring to the attention of the Patent & Trademark Office the art of record in the '414 patent, a copy of each of the references therein already having been submitted with this reissue application and all of the references being in the English language.


12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon. And I hereby appoint **NIXON & VANDERHYE P.C., 1100 North Glebe Road, 8th Floor, Arlington, VA 22201-4714, telephone number (703) 816-4000 (to whom all communications are to be directed)**, and the following attorneys to prosecute this reissue application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting reissue patent: Arthur R. Crawford, 25327; Larry S. Nixon, 25640; Robert A. Vanderhye, 27076; James T. Hosmer, 30184; Robert W. Faris, 31352; Richard G. Besha, 22770; Mark E. Nusbaum, 32348; Michael J. Keenan, 32106; Bryan H. Davidson, 30251; Stanley C. Spooner, 27393; Leonard C. Mitchard, 29009; Duane M. Byers, 33363; Jeffry H. Nelson, 30481; John R. Lastova,

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1.

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